

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/978,271	LEE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin Quarterman	2879	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 20 August 2003.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☒ The drawings filed on 17 October 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).**

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                             | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____             |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____  | 7 <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other _____  |

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment filed on 20 August 2003 has been entered and is sufficient to overcome the rejections of the previous office action.

***Allowable Subject Matter***

2. Claims 1-18 are allowed.

3. The following is an examiner's statement of reasons for allowance: Applicant has amended each independent claim to state that the carbon nanotube emitter is disposed on a portion of two surfaces of the cathode electrode. Applicant's argument that this limitation is not shown in the applied prior art is persuasive.

4. Therefore, regarding independent claim 1, the prior art of record neither shows or suggests a field emission display device comprising, in addition to other limitations of the claim, a carbon nanotube emitter disposed on a portion of two surfaces of a cathode electrode. Due to their dependency upon independent claim 1, claims 2-10 and 16 are also allowable.

5. Regarding independent claim 11, the prior art of record neither shows or suggests a field emission display device comprising, in addition to other limitations of the claim, a carbon nanotube emitter continuously covering a portion of two surfaces of the cathode electrode. Due its dependency upon independent claim 11, claim 17 is also allowable.

6. Regarding independent claim 12, the prior art of record neither shows or suggests a field emission display device comprising, in addition to other limitations of

Art Unit: 2879

the claim, a carbon nanotube emitter disposed on a cathode electrode, the carbon nanotube emitter covering a portion of two surfaces of the cathode electrode including a portion where the two surfaces of the cathode electrode meet. Due to their dependency upon independent claim 12, claims 13-15 and 18 are also allowable.

7. The subject carbon nanotube emitter covering two surfaces of the cathode, as described earlier, is provided for improving the focus of the electrons by decreasing divergence of the electrons. The design is new and unique to the art.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Saito (US 6116975) discloses a field emission cathode. Song (US 6307323) discloses a field emission display with diode-type field emitters. Chuang (US 6359383) discloses a field emission display equipped with nanotube emitters. Wang (US 6486599) discloses a field emission display panel equipped with two cathodes and an anode.

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quarterman whose telephone number is (703) 308-6546. The examiner can normally be reached on M-F (8-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kevin Quarterman  
Examiner  
Art Unit 2879

kq   
November 12, 2003



**Nimesh Patel**  
**Supervisory Patent Examiner**  
**Art Unit 2879**